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Species Research information 005: Flying Trichoptera; sternum V gland in Amphiesmenoptera; founder of acarology; Lepidostoma Rambur (Trichoptera, Lepidostomatidae); Eoneureclipsis Kimmins (Trichoptera: Psychomyiidae)

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W. GEOFF McILLERON, FERDINAND C. DE MOOR
Photography of Trichoptera in flight
Zoosymposia 5: 297–318 (2011)

Whereas photography of insects at rest is used for a wide variety of purposes, including illustrating publications and aiding their identification, photography of insects in flight is more challenging and little practiced. This paper describes a system that uses a digital single-lens-reflex camera combined with commercial-level flashes (with electronic power settings to give very short exposures) and simple electronics in a rig that can be used to capture high quality images of night-flying insects. With such a rig, hundreds of images of free flying Trichoptera have been obtained. Preliminary observations of night-flying *Athripsodes bergensis* (Leptoceridae) indicate that this system could be used for studying the mechanics of flight, wing beat frequency, aerodynamics, flying speed, aerial activity, and behavioural ecology of night-flying insects in their natural environment. This paper briefly describes the technique as applied at a site on the banks of the Groot River in the southern Cape region of South Africa between October 2008 and April 2009 and presents a selection of the images obtained.

MARIE DJERNÆS, FELIX A. H. SPERLING
Evolutionary riddles and phylogenetic twiddles: the ground plan and early diversification of the sternum V gland in Amphiesmenoptera (Trichoptera + Lepidoptera)
Zoosymposia 5: 83–100 (2011)

Despite the sternum V gland being a well known synapomorphy for Trichoptera and Lepidoptera, its ancestral configuration is uncertain. We investigated the sternum V gland in a wide variety of Trichoptera and Lepidoptera to resolve this question. We propose the ground plan to be constituted as follows: The gland is invaginated from sternum V with a slit-like opening and a U-shaped (in cross section) gland duct just inside the opening. Opening muscles originate anteromedially on sternum VI and insert on the walls of the gland duct just inside the opening. The gland reservoir is pressed against the cuticle of sternum IV and in females this area of cuticle is hyaline and perforated. A distinctive arrangement of muscle fibres originates around the perforated cuticle; they insert on the walls of the gland reservoir and facilitate secretion of gland products through the perforated cuticle. Other significant findings were the presence of 2 nonhomologous types of opening muscles in

Trichoptera and the scattered distribution of retained ancestral gland features; the latter might imply that these features have been retained as genetic pathways without being physically present in all ancestors of the extant species exhibiting the features.

ZHI-QIANG ZHANG, HUI-QIN DONG
The life and contributions of Prof Xin Jie-Liu (1909–1994)
Zoosymposia 4: 11–41 (2010)

Prof Xin Jie-Liu (1909–1994) was an outstanding entomologist in China during the last century. He was one of the founders of acarology and stored product entomology in China. He was also a pioneer of forest entomology, insect pathology, insect physiology and soil zoology in China. This tribute is prepared to commemorate the centenary of his birth. An account of his life and career was given, along with analyses of his works and contributions to the development of acarology and entomology in China. A bibliography of his 133 papers and 42 books (including 17 translated books) was presented for the first time.

TOMIKO ITO
Six new species of the genus Lepidostoma Rambur (Trichoptera, Lepidostomatidae) from Japan
Zoosymposia 5: 158–170 (2011)

Six new species of Lepidostoma Rambur, Lepidostomatidae, are described from Japan: *L. pseudemarginatum, L. mennokiense, L. yunotaniense, L. yosakoiense, L. konosense* and *L. amagiense*. They live in small water flows, often hygropetric habitats, in mountain areas.

TAKAAKI TORII, HIROYUKI NISHIMOTO
Discovery of the genus Eoneureclipsis Kimmins (Trichoptera: Psychomyiidae) from Japan
Zoosymposia 5: 453–464 (2011)

Four new species of Eoneureclipsis (Trichoptera: Psychomyiidae) are described from Japan: *E. montanus* n. sp., *E. shikokuensis* n. sp., E. *okinawaensis* n. sp. and *E. yaeyamaensis* n. sp. Illustrations of male wing venation and genitalia of both sexes are provided. A distribution map is also presented for the 4 species.

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